

Hopes from Technology

Imagining Tomorrow. History, Technology, and the American Future. JOSEPH J. CORN, Ed. MIT Press, Cambridge, MA, 1986. viii, 237 pp., illus. \$17.50.

Few, if any, nations can match either American optimism about the future or American faith in the powers of technology. The two are not unrelated. A good measure of American confidence in future progress has flowed from the belief that continued technological breakthroughs will fuel material growth and underwrite sweeping social advance. Some have even contended that dramatic developments in technology will eventually usher in an age of utopia. Over the past century, this faith in technologically induced progress has transformed and often supplanted belief in the efficacy of both religion and politics to bring about needed social change. Even today, leaders seek national security through space-based, technological solutions, not political ones. Clearly, America's technological fixation continues to have enormous consequences.

In the past two decades, this faith has been shaken in certain quarters by growing awareness of the downside of technological development in the nuclear age. The essays that Joseph J. Corn has assembled in *Imagining Tomorrow: History, Technology, and the American Future* testify to the greater skepticism about technology and the future characteristic of younger academics. All ten authors attended or finished graduate school in the late 1970's or early 1980's. All are critical of the facile equation of scientific and technological growth with progress, understanding that socioeconomic, political, and cultural forces determine the use that will be made of any technology. By examining the past history of the American future, dissecting and analyzing both the sober calculations and utopian dreams surrounding past introduction of major new technologies, the authors illuminate American attitudes toward technology and the future. They document a pattern of enormous and systematic misestimation of the potential impact of new technologies. The result is a provocative, if uneven, volume that successfully raises issues of contemporary relevance.

The essays reveal a deep strain of technological utopianism running through the pe-

riod from 1880 to 1950. Howard P. Segal treats the topic broadly by evaluating 25 technological utopian writers between 1883 and 1933. Carol Willis looks at the popular embrace of urban utopianism in the 1920's, when the vision of skyscraper utopias had wide appeal. Folke T. Kihlstedt describes the scientific-technological utopianism that shaped the two major world's fairs of the 1930's. He fails, however, to mention the harsh attacks that scientists, who were virtually excluded from planning the 1939 New York World's Fair, leveled against the "utopian" image of consumer society presented by the businessmen and industrial designers who dominated the planning.

Although a case can be made that technological utopianism has occasionally represented a radical force in American society, the authors emphasize its more conservative aspects. Segal points out that technological utopianism generally consists of simple extrapolation from the present into the future without challenging the existing power structure. Corn reminds us that "technological futurism," the faith that technology will solve social problems, has an anesthetic effect, dulling popular sensibilities to the need for the kinds of political change that will ultimately guarantee the ability of new technology to improve life qualitatively on this planet.

Other authors assay popular and expert response to particular inventions and discoveries, with individual chapters on electric lights, x-rays, radio, plastics, nuclear power, and computers collectively describing a fascinating compendium of utopian fantasy, bizarre imagination, and glaring underestimation. Nancy Knight catalogues a broad, and often humorous, array of predictions for the medical use of x-rays, ranging from reading minds to raising the dead. Knight also astutely explains how popular and professional obsessions with medicine's first miracle machine inaugurated an ongoing search for technical solutions to medical problems that has diverted attention and resources from equally necessary socioeconomic and political approaches to health care reform. Similar utopian projections accompanied the popularization of radio, especially in the hands of amateur operators. As Susan J. Douglas demonstrates, long

before radio was recognized as a medium for broadcasting voice and music, early commentators envisioned wireless telegraphy as a means to achieve world peace and overcome the disruption of family and community caused by industrialization and urbanization. Jeffrey L. Meikel informs us that even much-demeaned plastics went through several decades of utopian expectations both as the substance ideally suited to machine age aesthetics and as an expression of the chemists' ability to ensure abundance by conjuring an infinite variety of new products out of thin air. It took time, however, before imaginative use was made of either radio or plastics, the former being conceived of only as a replacement for existing wired telegraphy and the latter as a substitute for natural substances. Paul Ceruzzi contends that similar blinders prevented computer pioneers from comprehending the nature of computing, which they saw only as a breakthrough in numerical calculation. The physicist Howard Aiken, for example, initially assumed that four or five electronic digital computers would satisfy the needs of the entire nation. Even in 1953, IBM optimistically projected a potential market of 250 of its Model 350, which became the industry standard, selling thousands.

The best of these essays show how grandiose visions of technological potential have been tempered by socioeconomic, political, and cultural realities. Brian Horrigan insightfully assesses the aesthetic and socioeconomic dimensions of the struggle to determine the "home of tomorrow" between 1927 and 1945, explaining why the Westinghouse conception of the home as a container for gadgets ultimately prevailed over both the modernist vision of the home as a "machine for living" and the mass production model. As Horrigan makes clear, private profit often dictates the uses made of new inventions and discoveries, overriding both technological and social considerations.

Some of the essays tend to be more descriptive than analytical, chronicling, rather than explaining, America's fixation with technological progress. And beyond a few references to Lewis Mumford, the authors convey little of the rich tradition of technological criticism that has existed in this country since the mid-1920's. Still, the volume as a whole makes a valuable contribution to our understanding of how deep-seated American faith in technology has helped shape our past and alerts us to the dangers of continuing this blind embrace in the future.

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